Blackboard

E-learning Platform for students

Aakansha Pant- 01FB16ECS005
Aishwarya Ajeet- 01FB16ECS034
Aiswarya Sriram- 01FB16ECS036

Introduction

- Blackboard is a website for students to
  - View their school/college course
  - View Course videos
  - View Course material/textbooks
  - Upload Assignments that are automatically graded by a machine learning model

Features of the Website

- Students can log in or sign up
- Form validation for login and sign up pages
- Base64 encryption of password
- 4 databases to keep track of users(students), Courses, Course to video mapping and User to course mapping
- Dynamic re rendering of pages when user logs in with updated list of courses and any new videos

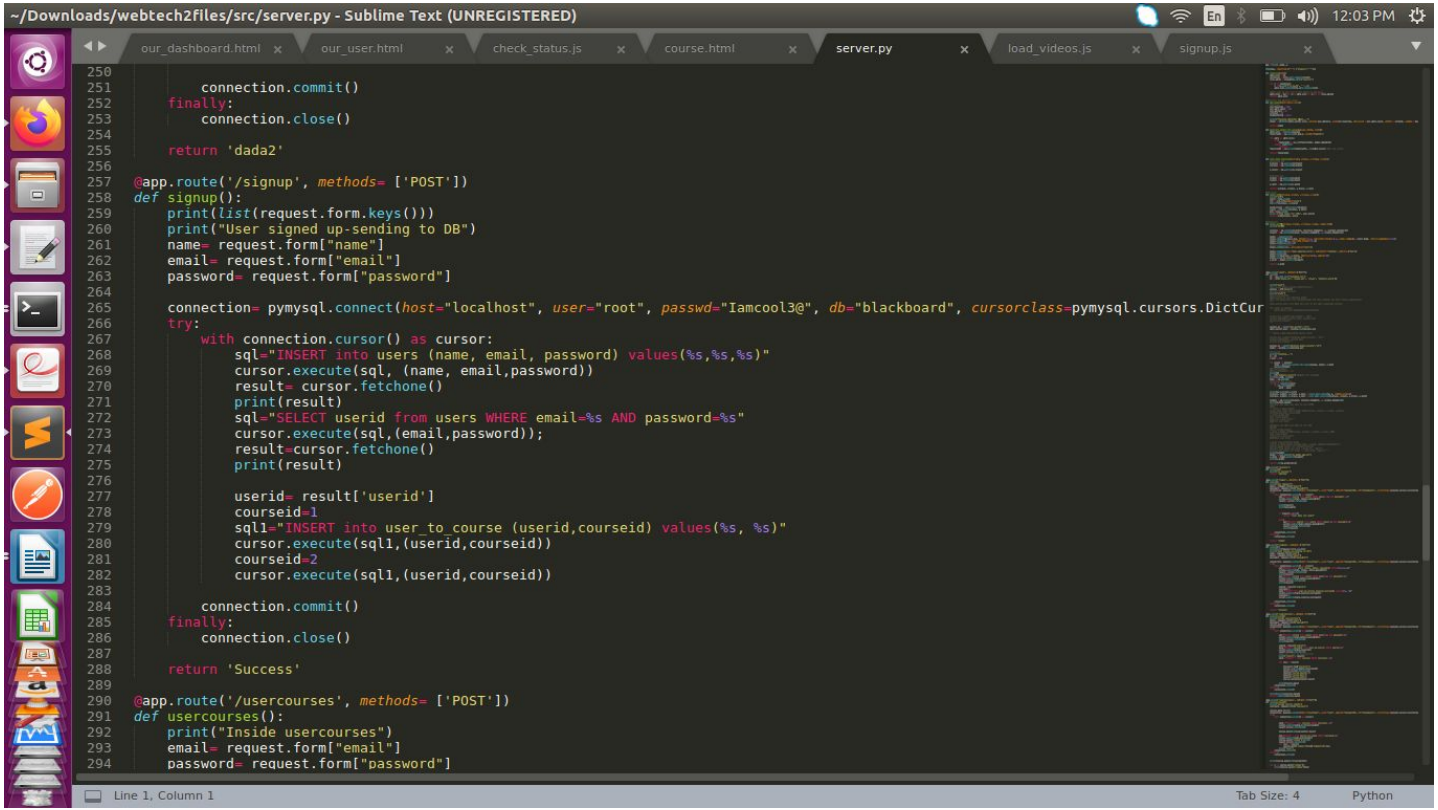
Frameworks

- Bootstrap for rendering of web pages- CSS Framework
- Flask server- Implemented REST API
    - Api calls for signup, login, fetch videos, submit assignments, fetch courses etc
- MYSQL database

Ajax Pattern and Microservices

- **Predictive fetch** via Scroll
- If student wishes to view textbook or course related material, they can click on link
- Opens textbook page that is rendered using predictive fetch
- Microservices (REST api) Implemented using flask
- Api calls for signup, login, fetch videos, submit assignments, fetch courses etc
- XHR Objects used for making GET/POST requests.

Api example- signup




```
        connection.commit()
    finally:
        connection.close()

    return 'dada2'

@app.route('/signup', methods= ['POST'])
def signup():
    print(list(request.form.keys()))
    print("User signed up-sending to DB")
    name= request.form["name"]
    email= request.form["email"]
    password= request.form["password"]

    connection= pymysql.connect(host="localhost", user="root", passwd="Iamcool3@", db="blackboard", cursorclass=pymysql.cursors.DictCur
    try:
        with connection.cursor() as cursor:
            sql="INSERT into users (name, email, password) values(%s,%s,%s)"
            cursor.execute(sql, (name, email,password))
            result= cursor.fetchone()
            print(result)
            sql="SELECT userid from users WHERE email=%s AND password=%s"
            cursor.execute(sql,(email,password));
            result=cursor.fetchone()
            print(result)

            userid= result['userid']
            courseid=1
            sql1="INSERT into user_to_course (userid,courseid) values(%s, %s)"
            cursor.execute(sql1,(userid,courseid))
            courseid=2
            cursor.execute(sql1,(userid,courseid))

        connection.commit()
    finally:
        connection.close()

    return 'Success'

@app.route('/usercourses', methods= ['POST'])
def usercourses():
    print("Inside usercourses")
    email= request.form["email"]
    password= request.form["password"]
```

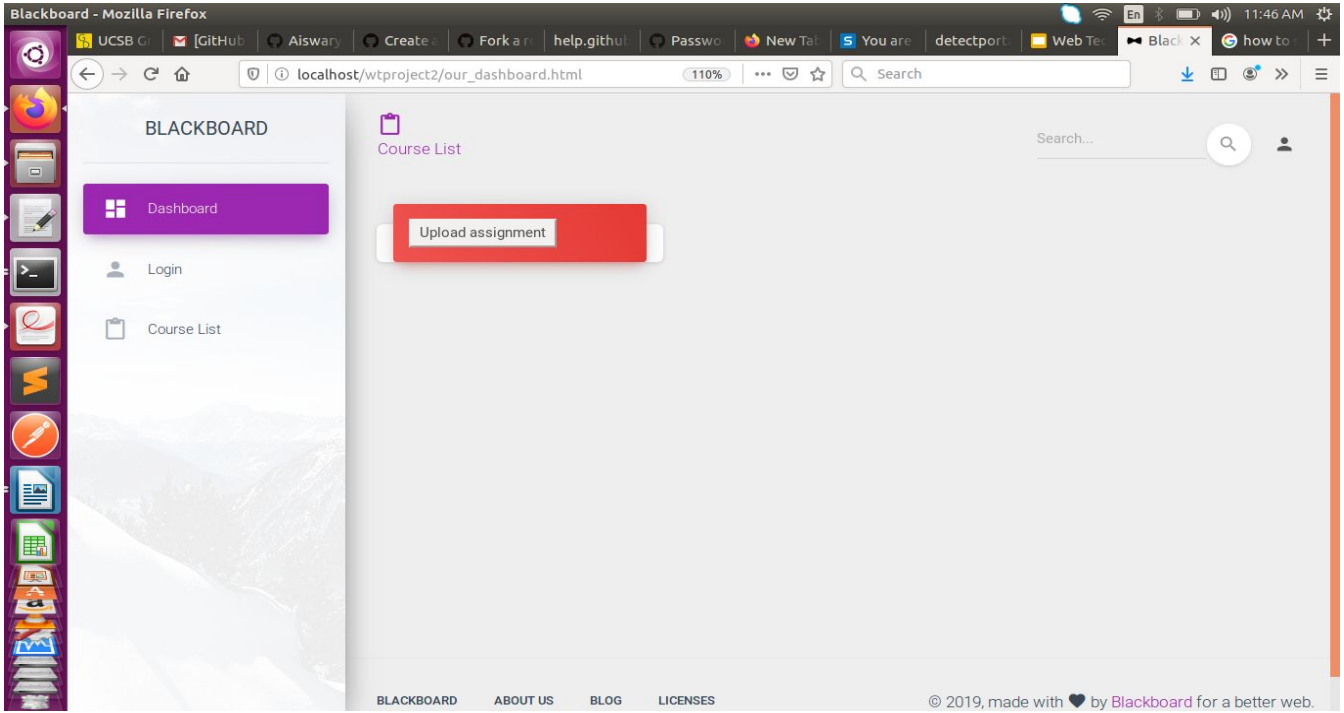
Smart Component- Automated Essay Grading

- Students can upload assignments using the upload assignment button on the main page
- The assignment will be graded and a score out of 10 is returned
- Machine learning model used to train dataset
    - The dataset used is the Hewlett Dataset which consists of 8 sets of english essays written by 7th-10th graders(21633 rows)
    - Preprocessing of essays- remove stop words and stemming
    - Passed the essay into a linguistic model (word2Vec) which generated similarity vectors
    - These vectors were then passed to the Long Short Term Memory(LSTM) model.
    - The essays had two human rater scores.
    - The score generated by our ML model was compared with the human rater score and there was an accuracy of around 85% (Kappa score-0.95- used to measure inter rater agreement)

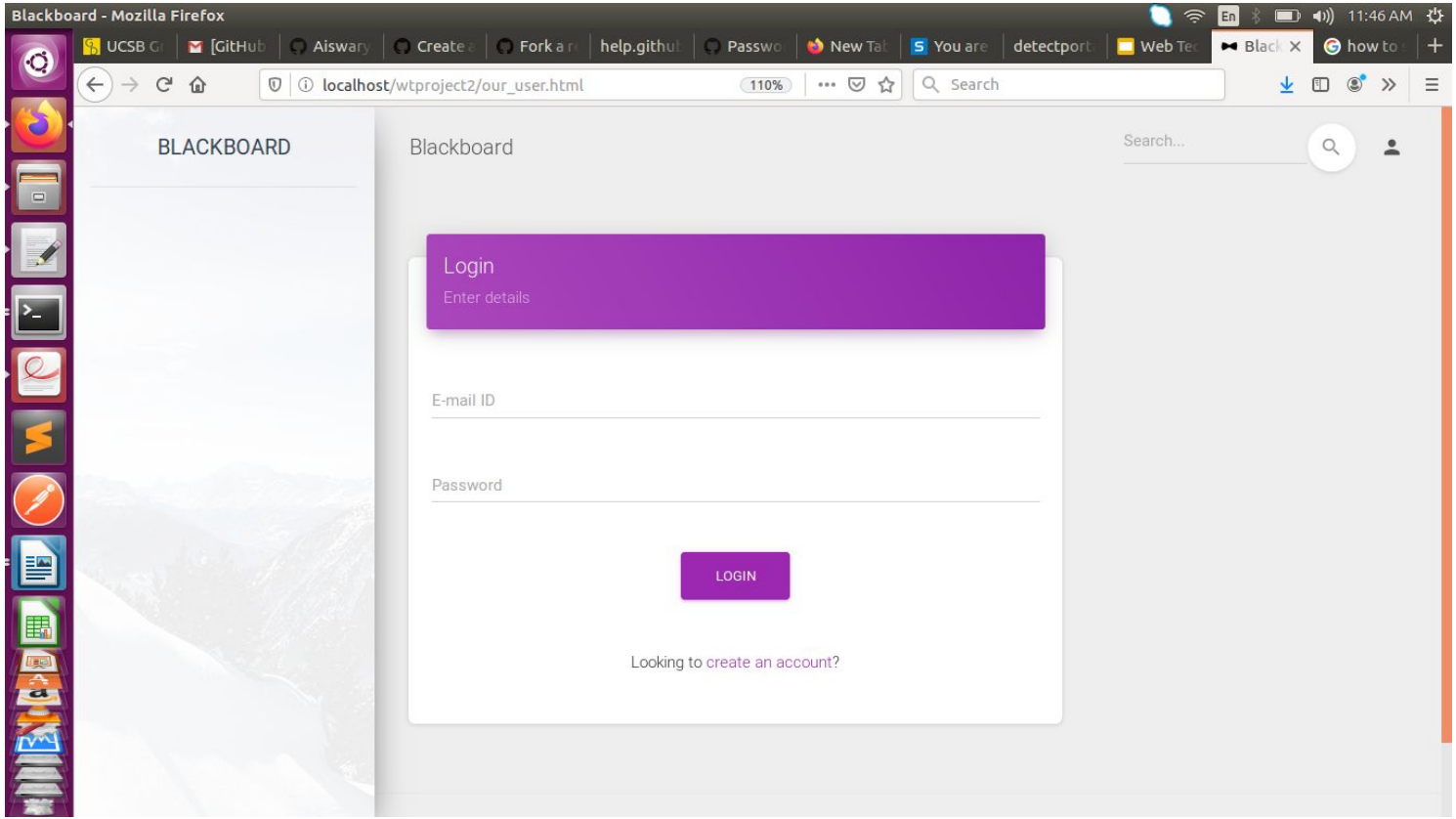
Smart Component Contd

- Since the model is trained on a certain essay topic, the test data has to be of same topic
- An input sample is provided(testdata.csv and essay input.txt)
- This can be copied into the textbox on the web page
- An automatic score is generated

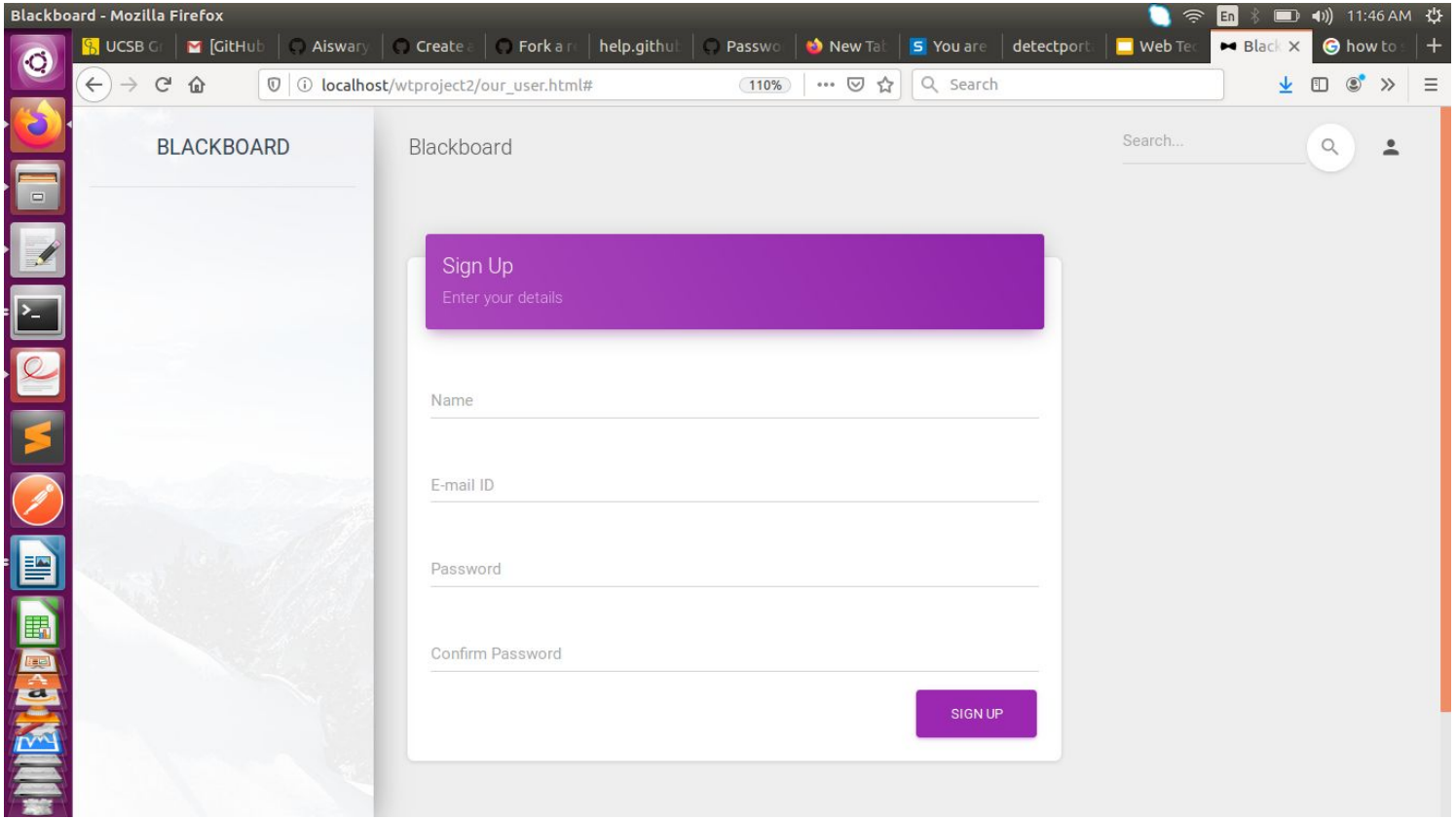
Before Login- Dashboard



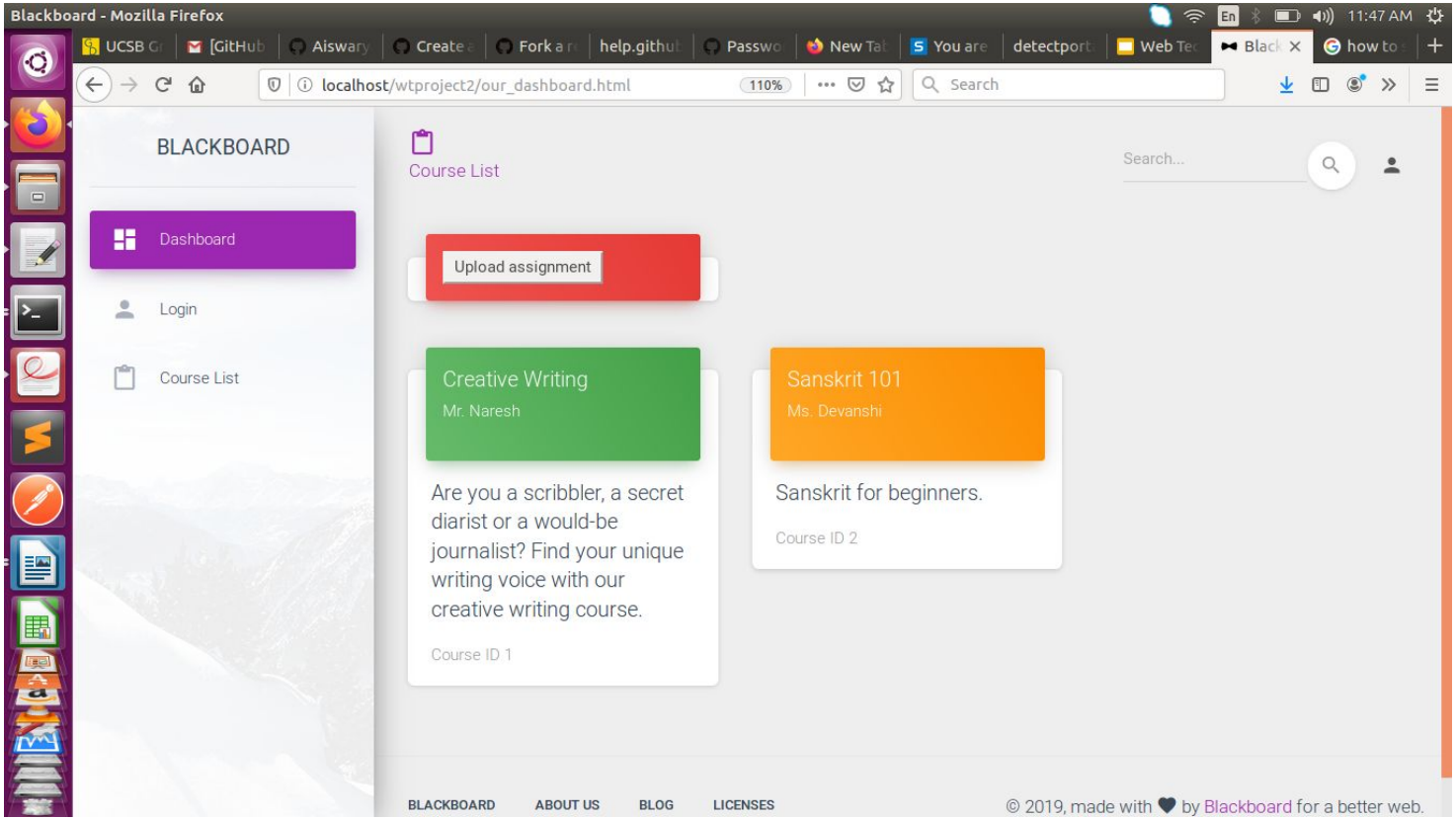
Login and Sign Up pages



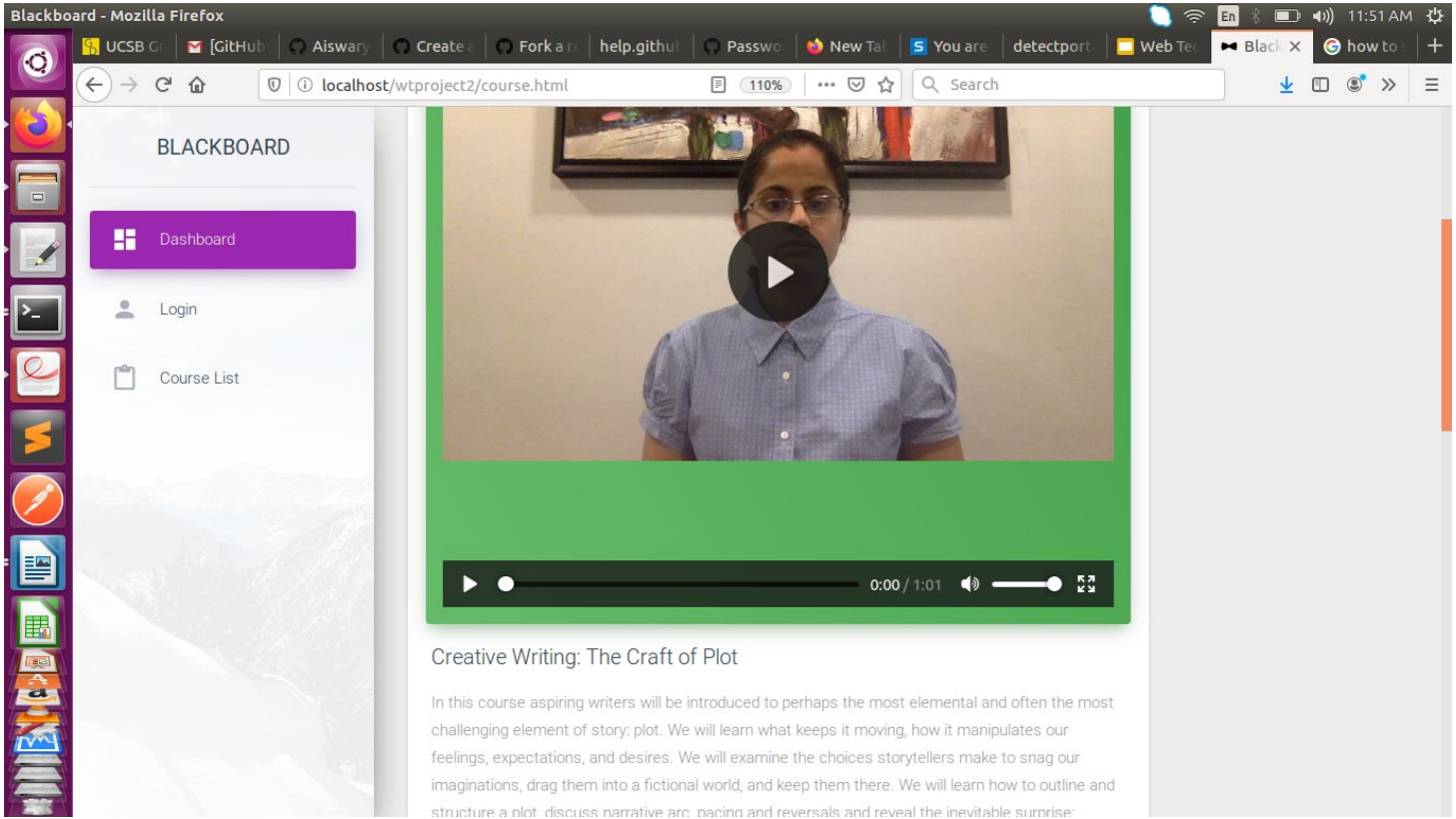
Sign Up Page


Blackboard - Mozilla Firefox
11:46 AM
localhost/wtproject2/our_user.html#
110%
Search
BLACKBOARD
Blackboard
Search...
Sign Up
Enter your details
Name
E-mail ID
Password
Confirm Password
SIGN UP

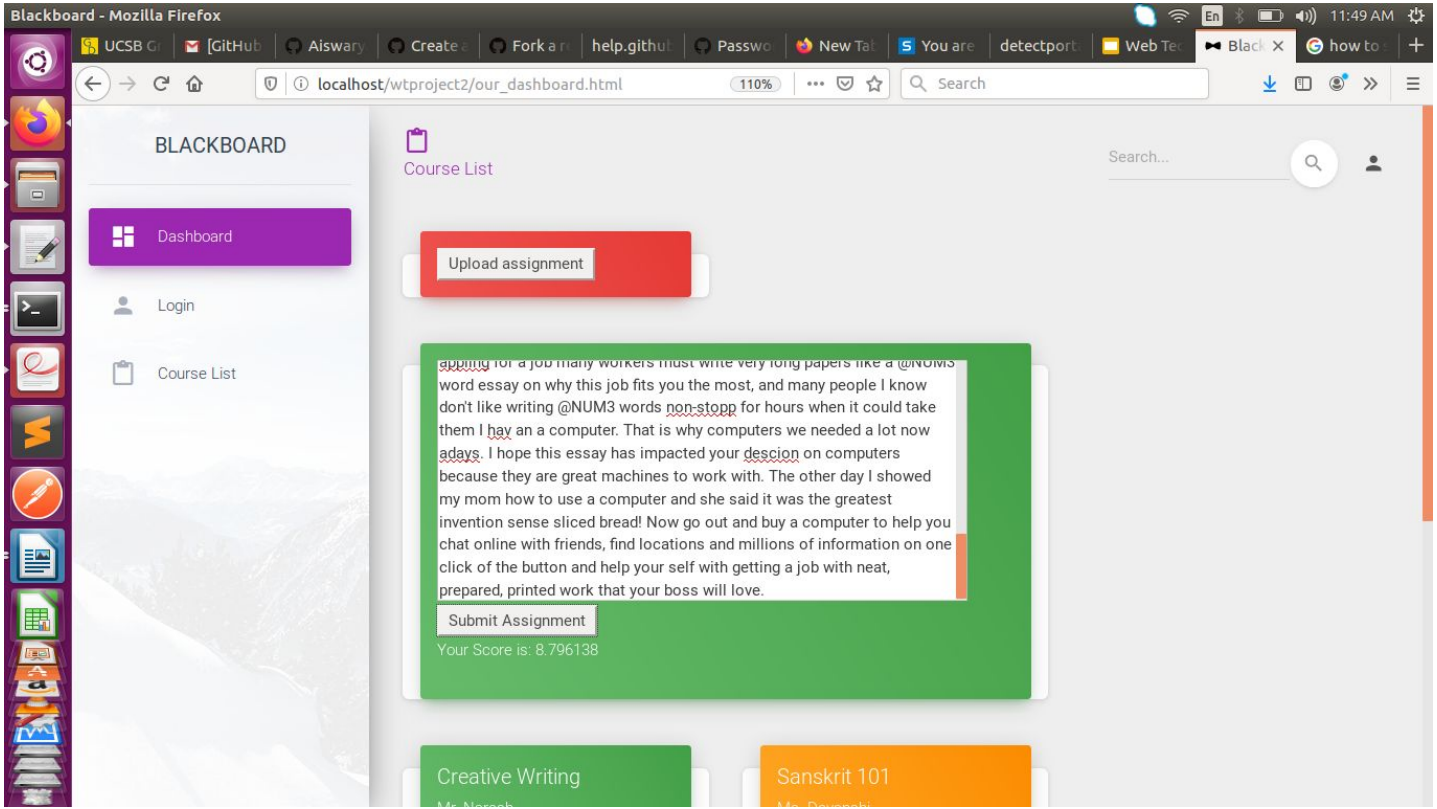
After login- student Dashbard



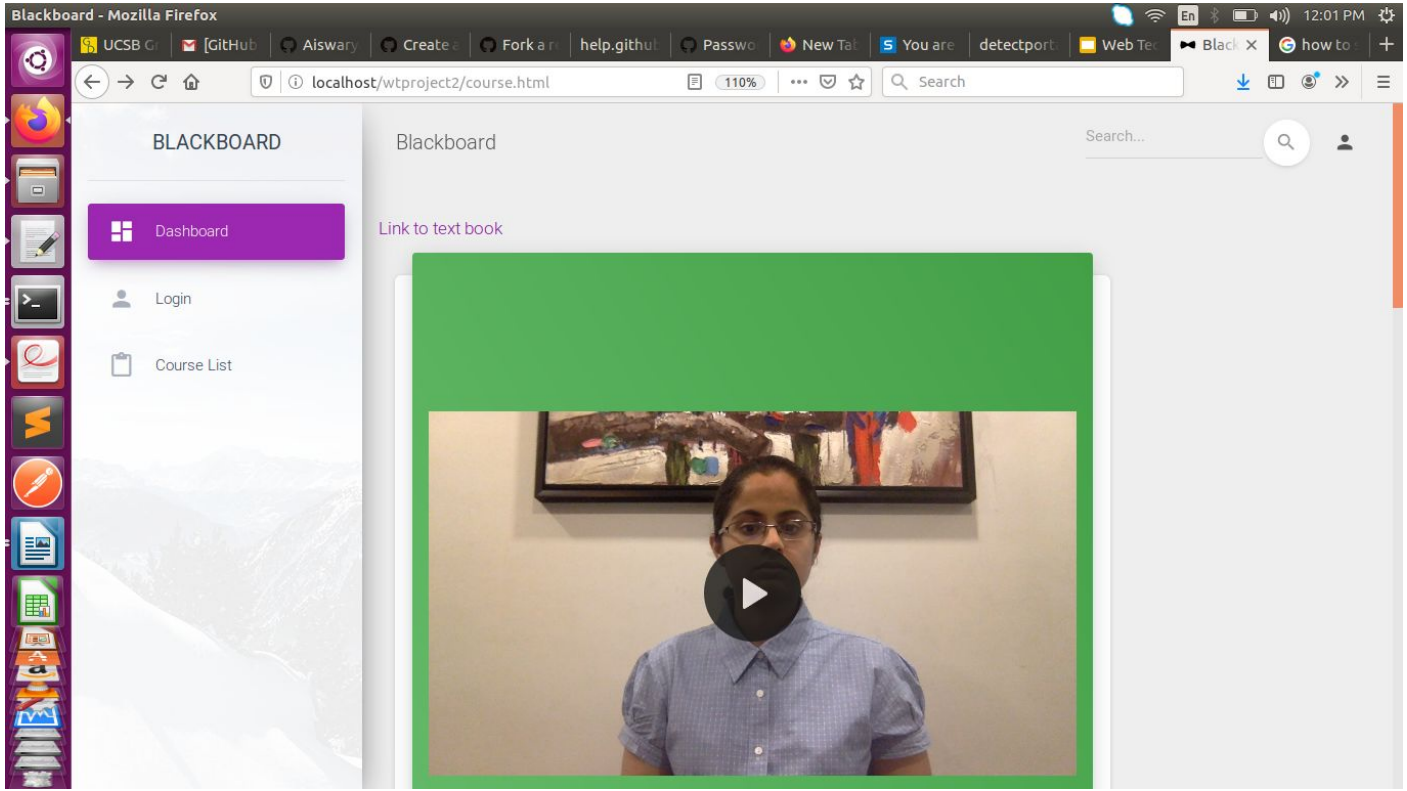
Course Videos Page



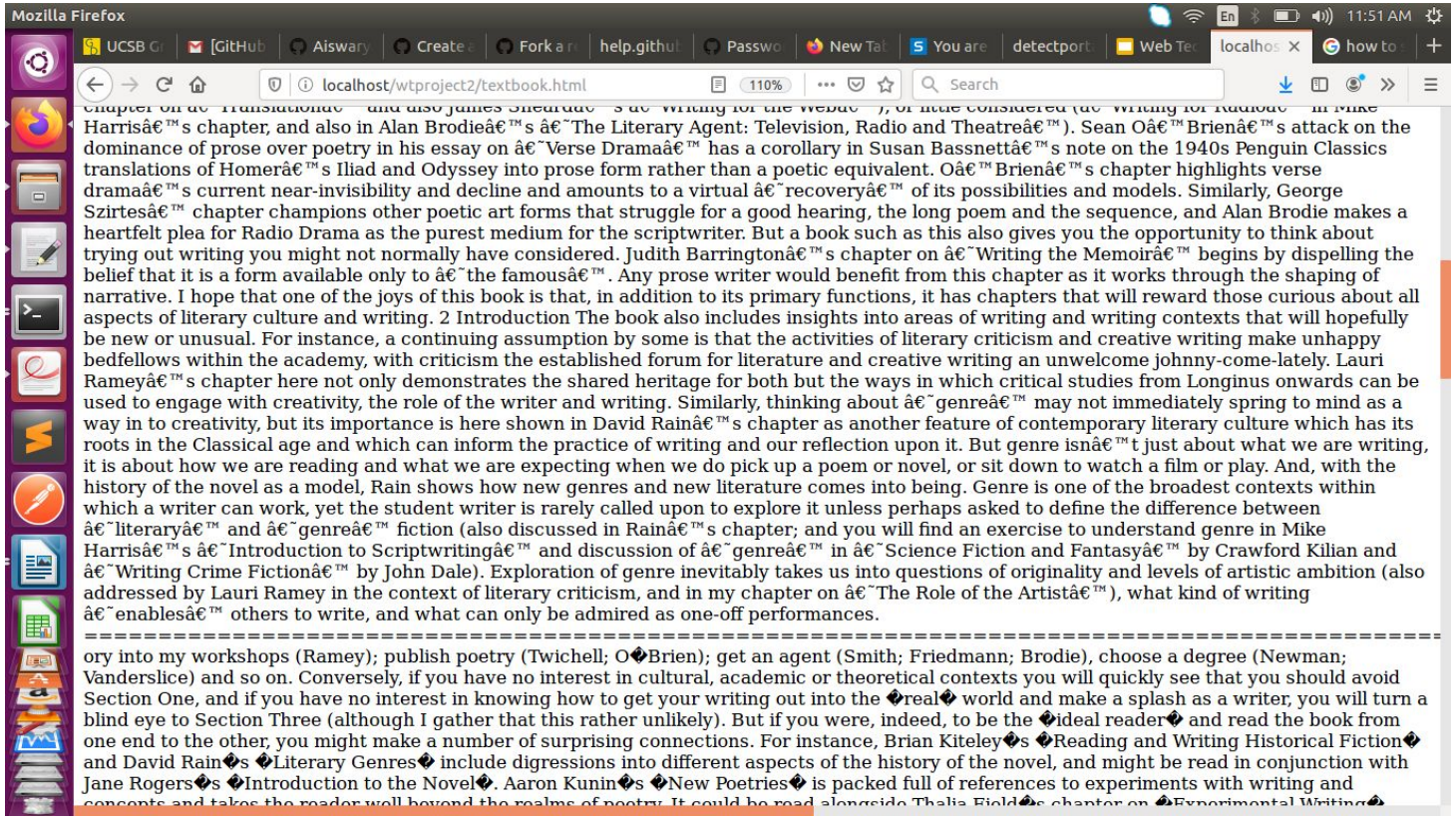
Essay Evaluation



Link to Textbook- Predictive Fetch



Textbook/Course material



Harrisâ€™s chapter, and also in Alan Brodieâ€™s â€˜The Literary Agent: Television, Radio and Theatreâ€™). Sean Oâ€™Brienâ€™s attack on the dominance of prose over poetry in his essay on â€˜Verse Dramaâ€™ has a corollary in Susan Bassnettâ€™s note on the 1940s Penguin Classics translations of Homerâ€™s Iliad and Odyssey into prose form rather than a poetic equivalent. Oâ€™Brienâ€™s chapter highlights verse dramaâ€™s current near-invisibility and decline and amounts to a virtual â€˜recoveryâ€™ of its possibilities and models. Similarly, George Szirtesâ€™ chapter champions other poetic art forms that struggle for a good hearing, the long poem and the sequence, and Alan Brodie makes a heartfelt plea for Radio Drama as the purest medium for the scriptwriter. But a book such as this also gives you the opportunity to think about trying out writing you might not normally have considered. Judith Barringtonâ€™s chapter on â€˜Writing the Memoirâ€™ begins by dispelling the belief that it is a form available only to â€˜the famousâ€™. Any prose writer would benefit from this chapter as it works through the shaping of narrative. I hope that one of the joys of this book is that, in addition to its primary functions, it has chapters that will reward those curious about all aspects of literary culture and writing. 2 Introduction The book also includes insights into areas of writing and writing contexts that will hopefully be new or unusual. For instance, a continuing assumption by some is that the activities of literary criticism and creative writing make unhappy bedfellows within the academy, with criticism the established forum for literature and creative writing an unwelcome johnny-come-lately. Lauri Rameyâ€™s chapter here not only demonstrates the shared heritage for both but the ways in which critical studies from Longinus onwards can be used to engage with creativity, the role of the writer and writing. Similarly, thinking about â€˜genreâ€™ may not immediately spring to mind as a way in to creativity, but its importance is here shown in David Rainâ€™s chapter as another feature of contemporary literary culture which has its roots in the Classical age and which can inform the practice of writing and our reflection upon it. But genre isnâ€™t just about what we are writing, it is about how we are reading and what we are expecting when we do pick up a poem or novel, or sit down to watch a film or play. And, with the history of the novel as a model, Rain shows how new genres and new literature comes into being. Genre is one of the broadest contexts within which a writer can work, yet the student writer is rarely called upon to explore it unless perhaps asked to define the difference between â€˜literaryâ€™ and â€˜genreâ€™ fiction (also discussed in Rainâ€™s chapter; and you will find an exercise to understand genre in Mike Harrisâ€™s â€˜Introduction to Scriptwritingâ€™ and discussion of â€˜genreâ€™ in â€˜Science Fiction and Fantasyâ€™ by Crawford Kilian and â€˜Writing Crime Fictionâ€™ by John Dale). Exploration of genre inevitably takes us into questions of originality and levels of artistic ambition (also addressed by Lauri Ramey in the context of literary criticism, and in my chapter on â€˜The Role of the Artistâ€™), what kind of writing â€˜enablesâ€™ others to write, and what can only be admired as one-off performances.

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ory into my workshops (Ramey); publish poetry (Twichell; O�Brien); get an agent (Smith; Friedmann; Brodie), choose a degree (Newman; Vanderslice) and so on. Conversely, if you have no interest in cultural, academic or theoretical contexts you will quickly see that you should avoid Section One, and if you have no interest in knowing how to get your writing out into the �real� world and make a splash as a writer, you will turn a blind eye to Section Three (although I gather that this rather unlikely). But if you were, indeed, to be the �ideal reader� and read the book from one end to the other, you might make a number of surprising connections. For instance, Brian Kiteley�s �Reading and Writing Historical Fiction� and David Rain�s �Literary Genres� include digressions into different aspects of the history of the novel, and might be read in conjunction with Jane Rogers�s �Introduction to the Novel�. Aaron Kunin�s �New Poetries� is packed full of references to experiments with writing and concepts and takes the reader well beyond the realms of poetry. It could be read alongside Thalia Field�s chapter on �Experimental Writing�

Thank You